

CHAPTER X

ADJUSTABLE FIXTURES FOR TURRET LATHES AND VERTICAL BORING MILLS

When pieces of the same type, but of various sizes, are to be machined on the turret lathe or vertical boring mill, it is sometimes desirable to design the tools and fixtures in such a way that they can be adapted to handle the different pieces, thus avoiding the necessity of providing a separate tool or fixture for each piece. Naturally, when the production is large, such a procedure as this would be unprofitable, because the tools could only be used on one piece at a time, and a lot of pieces of one size might be held up for a considerable time waiting for a lot of another size to be machined. When, however, the work comes along in lots of from 100 to 200 pieces, a great saving in tool cost can be effected by the use of adjustable tools and fixtures, providing the design of the parts is such that it will permit of following this practice. Much depends upon the shape of the work to be held and its machining requirements.

There are instances when the desired results may be obtained by simple means, and there are other cases which require the application of considerable ingenuity in order to avoid complications in the design. Properly designed and carefully built tools and fixtures of the adjustable type are profitable investments on certain classes of work, and their advisability should be carefully considered when several pieces of the same general type are to be handled. The greatest forethought is necessary in designing fixtures of this kind, in order to make sure that every point for every piece has received proper consideration. There is probably no other type of fixture which requires so much care in its design, and for that reason the important points given herewith should be most carefully noted.

Important Points in Design. — i. The number of pieces to be machined should be the first point considered, as this naturally has an effect on the design of the tools and fixtures.